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FORM PTO - 1449

INFORMATION DISCLOSURE STATEMENT

ATTORNEY DOCKET NO.: SNS-009A (7268/15)

APPLICANT: Payne

SERIAL NO.: 10/017,703

FILING DATE: December 14, 2001

GROUP: 2121

U.S. PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	A1	2,475,484	07/05/49	DeNise	318	628	05/14/46
	A2	3,168,203	02/01/65	Gallistel	214	1	07/07/60
	A3	3,263,824	08/02/66	Jones et al.	214	1	12/20/63
	A4	3,449,008	06/10/69	Colechia	294	88	06/08/67
	A5	3,531,868	10/06/70	Stevenson	33	174	04/18/68
	A6	3,618,786	11/09/71	Fick	214	1CM	01/02/69
	A7	3,637,092	01/01/72	George et al.	214	1CM	04/30/70
	A8	3,920,972	11/18/75	Corwin et al.	235	151.1	07/16/74
	A9	3,944,798	03/16/76	Eaton	235	161.3	04/18/74
	A10	4,062,455	12/13/77	Flatau	214	1	11/01/76
	A11	4,150,803	04/24/79	Fernandez	244	135A	10/05/77
	A12	4,216,467	08/05/80	Colston	340	365L	12/22/77
	A13	4,302,138	11/24/81	Zarudiansky	414	5	01/22/79
	A14	4,367,532	01/04/83	Crum et al.	364	513	12/24/80
	A15	4,420,808	12/13/83	Diamond et al.	364	434	01/18/82
	A16	4,521,685	06/04/85	Rebman	250	229	03/01/82
	A17	4,604,016	08/05/86	Joyce	414	7	08/03/83
	A18	4,632,341	12/30/86	Repperger et al.	244	230	02/06/85
	A19	4,638,798	01/27/87	Shelden et al.	128	303B	09/10/80
	A20	4,653,011	03/24/87	Iwano	364	513	03/27/85
	A21	4,654,648	03/31/87	Herrington et al.	340	710	12/17/84
	A22	4,655,673	04/07/87	Hawkes	414	730	05/10/83
	A23	4,661,032	04/28/87	Arai	414	5	12/18/85



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	A24	4,670,851	06/02/87	Murakami et al.	364	518	10/22/84
	A25	4,676,002	06/30/87	Slocum	33	1 MP	12/20/85
	A26	4,680,519	07/14/87	Chand et al.	318	568	09/23/85
	A27	4,703,443	10/27/87	Moriyasu	364	559	02/07/85
	A28	4,729,098	03/01/88	Cline et al.	364	414	06/05/85
	A29	4,769,763	09/06/88	Trieb et al.	364	559	06/16/86
	A30	4,791,934	12/20/88	Brunnett	128	653	08/07/86
	A31	4,795,296	01/03/89	Jau	414	5	10/17/86
	A32	4,800,721	01/31/89	Cemenska et al.	60	393	02/13/87
	A33	4,819,195	04/04/89	Bell et al.	364	571.1	01/20/87
	A34	4,823,634	04/25/89	Culver	74	471	11/03/87
	A35	4,837,734	06/06/89	Ichikawa et al.	364	513	02/26/87
	A36	4,839,838	06/13/89	LaBiche et al.	364	709.1	03/30/87
	A37	4,853,874	08/01/89	Iwamoto et al.	364	513	11/20/87
	A38	4,888,538	12/19/89	Dimitrov et al.	318	675	01/13/88
	A39	4,893,981	01/16/90	Yoshinada et al.	414	5	03/26/87
	A40	4,907,970	03/13/90	Meenen, Jr.	434	45	03/30/88
	A41	4,907,973	03/13/90	Hon	434	262	11/14/88
	A42	4,942,538	07/17/90	Yuan et al.	364	513	02/23/89
	A43	4,945,305	07/31/90	Blood	324	207.2	04/11/89
	A44	4,945,501	07/31/90	Bell et al.	364	571.1	04/12/89
	A45	4,961,138	10/02/90	Gorniak	364	200	10/02/89
	A46	4,973,215	11/27/90	Karlen et al.	414	729	02/14/89
	A47	4,982,504	01/08/91	Söderberg et al.	33	502	02/17/89
	A48	4,988,981	01/29/91	Zimmerman et al.	340	709	02/28/89
	A49	5,004,391	04/02/91	Burdea	414	6	08/21/89

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	A50	5,007,300	04/16/91	Siva	74	471 X	01/22/90
	A51	5,018,922	05/28/91	Yoshinada et al.	414	5	09/12/89
	A52	5,019,761	05/28/91	Kraft	318	568.1	02/21/89
	A53	5,038,089	08/06/91	Szakaly	318	568.1	10/28/88
	A54	5,040,306	08/20/91	McMurtry et al.	33	556	02/20/89
	A55	5,044,956	09/03/91	Behensky et al.	434	45	01/12/89
	A56	5,053,975	10/01/91	Tsuchihashi et al.	364	513	06/08/89
	A57	5,072,361	12/10/91	Davis et al.	364	167	02/01/90
	A58	5,088,046	02/11/92	McMurtry	364	474	12/19/88
	A59	5,088,055	02/11/92	Oyama	364	560	02/22/90
	A60	5,103,404	04/07/92	McIntosh	318	568.2	12/20/89
	A61	5,105,367	04/14/92	Tsuchihashi et al.	395	99	10/16/89
	A62	5,116,051	05/26/92	Moncrief et al.	273	448 B	06/08/90
	A63	5,116,180	05/26/92	Fung et al.	414	5	05/03/90
	A64	5,130,632	07/14/92	Ezawa et al.	318	568.1	12/05/90
	A65	5,131,844	07/21/92	Marinaccio et al.	433	72	04/08/91
	A66	5,142,931	09/01/92	Menahem	74	471 XY	02/14/91
	A67	5,143,505	09/01/92	Burdea et al.	414	5	02/26/91
	A68	5,184,319	02/02/93	Kramer	364	806	02/02/90
	A69	5,185,561	02/09/93	Good et al.	318	432	07/23/91
	A70	5,189,806	03/02/93	McMurtry et al.	33	503	08/17/92
	A71	5,193,963	03/16/93	McAfee et al	414	5	10/01/90
	A72	5,204,824	04/20/93	Fujimaki	364	474	08/23/90
	A73	5,220,260	06/15/93	Schuler	318	561	10/24/91
	A74	5,223,776	06/29/93	Radke et al.	318	568.1	12/31/90
	A75	5,239,246	08/24/93	Kim	318	568.1	07/08/92



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	A76	5,255,211	10/19/93	Redmond	364	578	02/22/90
	A77	5,264,768	11/23/93	Gregory et al.	318	561	10/06/92
	A78	5,266,875	11/30/93	Slotine et al.	395	99x	05/01/91
	A79	5,354,162	10/11/94	Burdea et al.	414	5	10/11/94
	A80	5,382,885	01/17/95	Salcudean et al.	318	568.1	08/09/93
	A81	5,389,865	02/14/95	Jacobus et al.	318	568.1	12/02/92
	A82	5,396,265	03/07/95	Ulrich et al.	345	158	09/17/90
	A83	5,414,337	05/09/95	Schuler	318	561	06/11/93
	A84	5,429,140	07/04/95	Burdea et al.	128	774	06/04/93
	A85	5,438,529	08/01/95	Rosenberg et al.	364	709.1	01/26/94
	A86	5,459,382	10/17/95	Jacobus et al.	318	568.1	06/09/94
	A87	5,482,051	01/09/96	Reddy et al.	128	733	04/06/94
	A88	5,489,830	02/06/96	Fernandez	318	628	09/01/94
	A89	5,497,452	03/05/96	Shimizu et al.	395	120	03/02/92
	A90	5,515,078	05/07/96	Greschler et al.	345	156	
	A91	5,555,894	09/17/96	Doyama et al.	128	782	05/02/94
	A92	5,559,412	09/24/96	Schuler	318	561	05/03/95
	A93	5,576,727	11/19/96	Rosenberg et al.	345	179	06/05/95
	A94	5,587,937	12/24/96	Massie et al.	364	578	04/25/95
	A95	5,589,854	12/31/96	Tsai	345	161	06/22/95
	A96	5,623,582	04/22/97	Rosenberg	395	99	07/14/94
	A97	5,623,642	04/22/97	Katz et al.	395	500	04/06/94
	A98	5,625,576	04/29/97	Massie et al.	364	578	10/01/93
	A99	5,629,594	05/13/97	Jacobus et al.	318	568.1	10/16/95
	A100	5,642,469	06/24/97	Hannaford et al.	395	99	11/03/94
	A101	5,666,138	09/09/97	Culver	345	161	11/22/94



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	A102	5,691,898	11/25/97	Rosenberg et al.	364	190	03/28/96
	A103	5,694,013	12/02/97	Stewart et al.	318	561	09/06/96
	A104	5,701,140	12/23/97	Rosenberg et al.	345	156	07/12/94
	A105	5,721,566	02/24/98	Rosenberg et al.	345	161	06/09/95
	A106	5,724,264	03/03/98	Rosenberg et al.	364	559	08/07/95
	A107	5,731,804	03/24/98	Rosenberg	345	156	01/18/95
	A108	5,734,373	03/31/98	Rosenberg et al.	345	161	12/01/95
	A109	5,737,505	04/07/98	Shaw et al.	395	119	10/15/96
	A110	5,739,811	04/14/98	Rosenberg et al.	345	161	09/27/95
	A111	5,742,278	04/21/98	Chen et al.	345	156	11/01/95
	A112	5,751,289	05/12/98	Myers	345	419	01/16/96
	A113	5,754,023	05/19/98	Roston et al.	318	561	10/22/96
	A114	5,767,839	06/16/98	Rosenberg	345	161	03/03/95
	A115	5,769,640	06/23/98	Jacobus et al.	434	262	08/10/95
	A116	5,784,542	07/21/98	Ohm et al.	395	95	10/23/96
	A117	5,790,108	08/04/98	Salcudean et al.	345	184	10/23/92
	A118	5,798,752	08/25/98	Buxton et al.	345	146	02/27/95
	A119	5,800,177	09/01/98	Gillio	434	262	07/11/96
	A120	5,800,178	09/01/98	Gillio	434	262	07/11/96
	A121	5,800,179	09/01/98	Bailey	434	262	07/23/96
	A122	5,802,353	09/01/98	Avila et al.	395	500	06/12/96
	A123	5,803,738	09/08/98	Latham	434	29	08/05/96
	A124	5,805,140	09/08/98	Rosenberg et al.	345	161	11/17/95
	A125	5,821,920	10/13/98	Rosenberg et al.	345	156	03/28/97
	A126	5,825,308	10/20/98	Rosenberg	341	20	11/26/96
	A127	5,828,197	10/27/98	Martin, et al.	318	567	10/25/96



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<i>VW</i>	A128	5,831,408	11/03/98	Jacobus, et al.	318	568.1	05/12/97
<i>VW</i>	A129	5,844,392	12/01/98	Peurach et al.	318	568.2	05/21/97
	A130	5,859,934	01/12/99	Green	382	296	01/14/97
	A131	5,880,714	03/09/99	Rosenberg et al.	345	156	01/15/97
	A132	5,889,670	03/30/99	Schuler et al.	364	186	01/11/96
	A133	5,903,456	05/11/99	Schena et al.	364	190	01/27/97
	A134	5,907,487	05/25/99	Rosenberg et al.	364	190	04/02/97
	A135	5,913,727	06/22/99	Ahdoot	463	39	06/13/97
	A136	5,929,607	07/27/99	Rosenberg et al.	320	166	04/02/97
	A137	5,929,846	07/27/99	Rosenberg et al.	345	161	06/05/97
	A138	5,956,484	09/21/99	Rosenberg et al.	395	200.3	08/01/96
	A139	6,084,587	07/04/00	Tarr et al.	345	419	02/08/96
	A140	6,191,796 B1	02/20/01	Tarr	345	433	01/21/98
	A141	6,337,678 B1	01/20/02	Fish	345	156	07/21/99
<i>VW</i>	A142	6,342,880 B2	01/20/02	Rosenberg et al.	345	161	10/06/99
<i>I</i>	A143	D. 377,932	02/11/97	Schena et al.	D14	114	10/31/95

FOREIGN PATENT DOCUMENTS

EXAM INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B1	WO 95/02801	01/26/95	PCT	G01B	7/03	07/12/94	N	Y
	B2	WO 96/16397	05/30/96	PCT	G09G	5/08	11/22/95	N	Y
	B3	WO 96/22591	07/25/96	PCT	G09G	5/00	01/17/96	N	Y
	B4	WO 96/42078	12/27/96	PCT	G09G	3/02	06/07/96	N	Y
	B5	WO 97/06410	02/20/97	PCT	G01C	7/00	07/29/96	N	Y
	B6	WO 97/12337	04/03/97	PCT	G06F	19/00	09/25/96	N	Y
	B7	WO 97/12357	04/03/97	PCT	G09G	5/00	09/25/96	N	Y

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	B8	WO 97/19440	05/29/97	PCT	G09G	5/00	11/05/96	N	Y
	B9	WO 97/21160	06/12/97	PCT	G06F	N/A	11/26/96	N	Y
	B10	WO 97/44775	11/27/97	PCT	G09G G06G B25J G05B G06F G06G A03B	5/08 3/00 9/18 19/19 19/408 17/00 7/48 71/00 24/00	05/16/97	N	Y
	B11	WO 98/06024	02/12/98	PCT	G06F	3/00 15/16 17/30	07/31/97	N	Y
	B12	WO 98/26342	06/18/98	PCT	G06F	N/A	11/25/97	N	Y
	B13	WO 98/30951	07/16/98	PCT	G06F	3/02	01/07/98	N	Y
	B14	WO 98/58308	12/23/98	PCT	G06F	3/033	06/15/98	N	Y
	B15	WO 98/58323	12/23/98	PCT	G06F	15/00	06/16/98	N	Y
	B16	WO 99/10872	03/04/99	PCT	G09G	5/00	08/21/98	N	Y
	B17	EP 0 915 434 A2	05/12/99	EP	G06T	15/50	05/14/98	N	Y

OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.		OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)
	C1	Adachi, "Touch and Trace on the Free-Form Surface of Virtual Object," Proceedings of IEEE Virtual Reality Annual International Symposium, September 18-22, 1993, Seattle WA, pgs. 162-168.
	C2	Agrawala et al., "3D Painting on Scanned Surfaces", Stanford University, 1995, pgs 145-150.
	C3	Atkinson et al., "Computing with Feeling" COMPUT. & GRAPHICS, Vol. 2, 1977, pgs. 97-103.
	C4	Avila et al., "A Haptic Interaction Method for Volume Visualization," GE Corporate Research & Development, Schenectady, NY, pp. 1-9 (1996).
	C6	Barr, "Global and Local Deformations of Solid Primitives"; COMPUTER GRAPHICS; Vol. 18, No. 3, pgs. 21-30 (July, 1984).
	C7	Bergamasco, "Design of Hand Force Feedback Systems for Glove-like Advanced Interfaces", IEEE, September 1992, pp. 286-293.
	C8	Blinn, "Simulation of Wrinkled Surfaces," COMPUTER GRAPHICS, Volume 12-3, August 1978, pages 286-292.
	C9	Brooks et al., "Project GROPE - Haptic Displays for Scientific Visualization," COMPUTER GRAPHICS, Vol. 24, No. 4, August 1990, pgs. 177-185.

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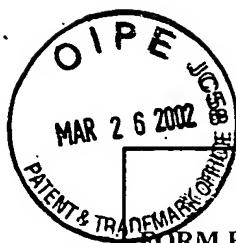
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C10	Burdea, "Force And Touch Feedback For Virtual Reality," John Wiley and Sons, Inc., New York, New York, pp. 190-193 (1996).
C11	Colgate et al., "Factors Affecting the Z-Width of a Haptic Display," published by IEEE Computer Society Press, Los Alamitos, California, in Proceedings: 1994 IEEE International Conference On Robotics and Automation, held May 8-13, 1994 in San Diego, California, Vol. 4, 1994, pgs. 3205-3210.
C12	Colgate et al., "Implementation of Stiff Virtual Walls in Force Reflecting Interfaces," IEEE Virtual Reality Annual International Symposium (Seattle, WA), pp. 202-208 (September 18-22, 1993).
C13	Colgate et al., "Issues in the Haptic Display of Tool Use," published by IEEE Computer Society Press, Los Alamitos, California, in Proceedings: 1995 IEEE/RSJ International Conference on Intelligent Robots and Systems - Human Robot Interaction and Cooperative Robots, held August 5-9, 1995 in Pittsburgh, Pennsylvania, 1995, pgs. 140-145.
C14	Decaudin, "Geometric Deformation by Merging a 3D-Object with a Simple Shape," Graphics Interface '96 Proceedings (Toronto, Canada), 6 pgs. (May 21-24, 1996).
C15	Dworkin et al., "A New Model for Efficient Dynamic," Fourth Eurographics Animation and Simulation Workshop Proceedings Eurographics Technical Report Series, ISSN 1017-4656, September 4-5, 1993, pp. 135-147.
C16	Galyean, "Sculpting: An Interactive Volumetric Modeling Technique," Computer Graphics (SIGGRAPH '91 Las Vegas), Vol. 25, No. 4, pp. 267-274 (July 1991).
C17	Hashimoto et al., "Dynamic Force Simulator for Force Feedback Human-Machine Interaction", IEEE, September 1993, pp. 209-215.
C18	Hirata et al., "3-Dimensional Interface Device for Virtual Work Space," Proceedings of the 1992 IEEE, July 7-10, 1992, pp. 889-896.
C19	Hirota et al., "Providing Force Feedback in Virtual Environments", IEEE, September 1995, pp. 22-30.
C20	Hirota et al., "Development of Surface Display," Proceedings of the Virtual Reality Annual International Symposium (Seattle), pp. 256-262 (September 18-23, 1993).
C21	Howe et al., "Task Performance with a Dextrous Teleoperated Hand System," Telemanipulator Technology, November 1992, Proceedings of SPIE, Vol. 1833, pages 1-9.
C22	Immersion Corporation, "Impulse Engine 2000," http://www.immerse.com/WWWpages/IE2000pg.htm , 2 pages (1997).
C23	Immersion Corporation, "Laparoscopic IMPULSE ENGINE: A New FORCE FEEDBACK Surgical Simulation Tool", Immersion Corporation, 1995. http://www.immerse.com/wwwpages/lapiEpg.htm
C24	Immersion Corporation, "Medical Simulation," 1 page, (undated)
C25	Immersion Corporation, "The IMPULSE ENGINE", 1 page, Immersion Corporation, 1996.
C26	Immersion Corporation, "Virtual Laparoscopic Interface", Immersion Corporation, 1995, 1 pg.
C27	Inoue et al., "Parallel Manipulator," Proceedings of 3rd Robotics Research: The Third International Symposium, Faugeras & Giralt, eds., MIT Press 1986.
C28	Ishii et al., "A 3D Interface Device with Force Feedback: A Virtual Work Space for Pick-and-Place Tasks", IEEE, September 1993, pp. 331-335.
C29	Iwata, "Pen-based Haptic Virtual Environment," Proceedings of IEEE Virtual Reality Annual International Symposium, (September 18-22, 1993, Seattle, WA), pp. 287-292.
C30	Iwata, "Artificial Reality with Force-feedback: Development of Desktop Virtual Space with Compact Master Manipulator," Computer Graphics (SIGGRAPH '90 Dallas), Vol. 24, No. 4, pp. 165-170 (August 1990).

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C31	Kelley et al. "MagicMouse: Tactile and Kinesthetic Feedback in the Human-Computer Interface Using an Electromagnetically Actuated Input/Output Device," Department of Electrical Engineering, University of British Columbia, Vancouver, BC, V6T 1Z4, Canada, October 19, 1993, pp. 1-27.
C32	Kotoku et al., "A Force Display Algorithm for Virtual Environments," SICE, pp. 347-355, 1992.
C33	Kraft Ocean Systems, "Grips Underwater Manipulator System".
C34	Kraft Telerobotics, Inc., "GRIPS Force Feedback Manipulator System,"
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INFORMATION DISCLOSURE STATEMENT

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OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.		OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)
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